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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,291	10/06/2004	Yukihiro Tanizoe	MTS-3529US	6477
23122	7590	09/12/2007	EXAMINER	
RATNERPRESTIA			MEYERS, JAMES A	
P O BOX 980			ART UNIT	PAPER NUMBER
VALLEY FORGE, PA 19482-0980			2622	
			MAIL DATE	DELIVERY MODE
			09/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/510,291

Applicant(s)

TANIZOE ET AL.

Examiner

James A. Meyers

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This action is in response to the amendment dated June 12, 2007. Claims 2 and 13 have been cancelled. Claims 1, 3-12 and 14-16 are pending and have been considered below.

#### ***Claim Objections***

1. Based on the amendment dated June 12, 2007, all previous claim objections have been withdrawn.
2. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12, by Applicant's statement (see amendment dated June 12, 2007, page 7, 4<sup>th</sup> paragraph), is dependent on Claim 11, but adds no additional steps to the claimed method.

#### ***Claim Rejections - 35 USC § 101***

3. Based on the amendment dated June 12, 2007, all claim rejections based on 35 U.S.C. 101 have been withdrawn.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7-12 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Osada (JP 2000-197067).

**Claim 1:** Osada discloses an image signal processing apparatus (Abstract) comprising:

(a) image capturing means of performing image capture using a plurality of types of color filters which are arranged based on repetition of a pattern determined in advance (a color filter CF of a Bayer pattern; Abstract);

(b) color change detecting means of performing color change detection regarding the result of said image capture (page 8, paragraphs 33-34; Figure 3);

(c) luminance change detecting means of performing luminance change detection regarding the result of said image capture (page 8, paragraphs 33-34; page 9, paragraph 46); and

(d) luminance signal generating means of performing luminance signal generation regarding the result of said image capture based on the result of said color change detection and the result of said luminance change detection (Abstract);

wherein said color change detection is performed with respect to a predetermined direction corresponding to said pattern (page 9, paragraph 44; page 10, paragraph 53; Figures 16 and 17), and

wherein a pseudo-signal is suppressed at said color change point where the result of said color change detection exceeds a predetermined level regarding said result of said luminance change (Abstract; page 17, paragraph 127).

While Osada does not explicitly disclose that this pseudo-signal is "dot-like", the Examiner notes that Applicant discloses that a dot-like pseudo-signal "would manifest itself" in an arrangement of color separation filters in a Bayer pattern (pages 4 and 5 of the specification, specifically, page 5, lines 18-20). Since Osada also uses a Bayer pattern, the pseudo-signal generated there would inherently be "dot-like".

**Claim 7:** Osada discloses an image signal processing apparatus as in Claim 1, and further discloses that the pattern is a pattern having two pixels in the horizontal direction and two pixels in the vertical direction so as to arrange a color filter of red and a color filter of green in this order on the first line in the horizontal direction and a color of green and a color filter of blue in this order on a second line in the horizontal direction (Figure 2) and that the predetermined direction is the direction of a diagonal line (Figure 16).

**Claim 8:** Osada discloses an image signal processing apparatus as in Claim 7, and further discloses that the color change detection is performed for a change of red in the direction of the diagonal line and a change of blue in the direction of the diagonal line (Figure 16).

**Claim 9:** Osada discloses an image signal processing apparatus as in Claim 7, and further discloses that calculation of suppression of the pseudo-signal is performed for a change of red in the direction of the diagonal line and a change of blue in the direction of the diagonal line (Abstract; page 17, paragraph 127; Figure 16).

**Claims 10 and 11:** Osada discloses an image signal processing circuit and method comprising:

(a) color change detecting means of performing color change detection regarding the result of said image capture (page 8, paragraphs 33-34; Figure 3);

(b) luminance change detecting means of performing luminance change detection regarding the result of said image capture (page 8, paragraphs 33-34; page 9, paragraph 46); and

(c) luminance signal generating means of performing luminance signal generation regarding the result of said image capture based on the result of said color change detection and the result of said luminance change detection (Abstract);

wherein said color change detection is performed with respect to a predetermined direction corresponding to said pattern (page 9, paragraph 44; page 10, paragraph 53; Figures 16 and 17), and

wherein a pseudo-signal is suppressed at said color change point where the result of said color change detection exceeds a predetermined level regarding said result of said luminance change (Abstract; page 17, paragraph 127).

While Osada does not explicitly disclose that this pseudo-signal is “dot-like”, the Examiner notes that Applicant discloses that a dot-like pseudo-signal “would manifest itself” in an arrangement of color separation filters in a Bayer pattern (pages 4 and 5 of the specification, specifically, page 5, lines 18-20). Since Osada also uses a Bayer pattern, the pseudo-signal generated there would inherently be “dot-like”.

**Claim 12:** Osada discloses a recording medium which holds a program and which can be processed on a computer comprising:

(a) color change detecting means of performing color change detection regarding the result of said image capture (page 8, paragraphs 33-34; Figure 3);

(b) luminance change detecting means of performing luminance change detection regarding the result of said image capture (page 8, paragraphs 33-34; page 9, paragraph 46); and

(c) luminance signal generating means of performing luminance signal generation regarding the result of said image capture based on the result of said color change detection and the result of said luminance change detection (Abstract).

**Claims 14-16:** Osada discloses an image signal processing apparatus, circuit and method as in Claims 1, 10 and 11 above, and further discloses that the result of said color change and said luminance change are values (Abstract; page 17, paragraph 127). Osada discloses a color difference signal as the result of the color change, and a

luminance signal as the result of the luminance change, both of which must inherently have values. Therefore, the result of both changes are values.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osada (JP 2000-197067) in view of Tanizoe et al. (JP 08-070466).

**Claim 3:** Osada discloses an image signal processing apparatus as in Claim 1 above, and further discloses that the predetermined direction is the horizontal direction (Figure 17). However, Osada does not explicitly disclose that the pattern is a pattern having two pixels in the horizontal direction and 4 pixels in the vertical direction so as to arrange a color filter of magenta and a color filter of green in this order on a first line in the horizontal direction, a color filter of yellow and a color filter of cyan in this order on a second line in a horizontal direction, a color filter of green and a color filter of magenta in this order on a third line in a horizontal direction, and a color filter of yellow and a color filter of cyan in this order on a fourth line in a horizontal direction (referred to hereafter as a color difference line sequential arrangement, see page 2, line 7 of the present application). Tanizoe discloses an image signal processing device that uses



Art Unit: 2622

this color difference line sequential arrangement (page 4, Figure 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the arrangement of Tanizoe into the apparatus of Osada. One would have been motivated to include the arrangement of filters of Tanizoe to allow for detection of color changes that would be less apparent using an RGB arrangement.

**Claims 4-6:** Osada and Tanizoe disclose an apparatus as in Claim 3 above, and Osada further discloses that color change detection can be performed horizontally and vertically (Figure 17). Neither Osada nor Tanizoe disclose that the colors magenta, yellow and cyan are used in color change detection. However, it would have been obvious to one having ordinary skill in the art at the time of invention that any colors included in the pattern of filters, including red, blue, green, magenta, cyan and yellow could be used to detect color change horizontally, vertically or diagonally. One would have been motivated to use magenta, green, yellow and cyan to detect the color change because those were the filters present in the filter disclosed in Tanizoe.

### ***Response to Arguments***

8. Applicant's arguments filed June 12, 2007 have been fully considered but they are not persuasive. Osada discloses all features in Claims 1, 10 and 11, including features added to the claims in the amendment dated June 12, 2007. See above.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Meyers whose telephone number is (571) 270-1690. The examiner can normally be reached on Mon-Thurs 8AM-5:30PM.

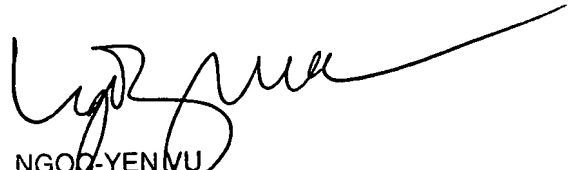
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/22/2007

JM



NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER